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Amdt. Dated 3 November 2003 (*Insert Date mailed or faxed*)
Reply to Offic action of 1 August 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (currently amended). A core contact detection method comprising:

(a) positioning at least two electrically conductive plates near at least two respective laminations of a laminated core;

(b) supplying an excitation signal to the at least two electrically conductive plates; and

(c) using a resulting signal to detect variations over time in capacitance between the at least two electrically conductive plates representative of a core contact.

2 (original). The method of claim 1 wherein (a) comprises positioning the at least two electrically conductive plates near at least two respective adjacent laminations of the laminated core.

3 (original). The method of claim 1 wherein (a) comprises positioning the at least two electrically conductive plates near the at least two respective laminations of the laminated core along at least one tooth of th laminated core.

4 (original). The method of claim 3 further comprising moving the at least two electrically conductive plates axially relative to the at least one tooth while repeating (a) – (c) and using the plurality of resulting measured signals to detect core contacts.

5 (original). The method of claim 1 wherein (a) comprises positioning the at least two electrically conductive plates near the at least two respective laminations of the laminated core along at least two teeth of the laminated core.

6 (original). The method of claim 5 further comprising moving the at least two electrically conductive plates axially relative to the at least two teeth while repeating (a) – (c) and using the plurality of resulting measured signals to detect core contacts.

7 (original). The method of claim 1 wherein (b) comprises supplying the excitation signal to the at least two electrically conductive plates through a bridge circuit.

8 (original). The method f claim 1 wherein (a) comprises positioning at least three electrically conductive plates near at least three respective laminations of a laminated core.

9 (original). The method of claim 8 wherein (b) comprises supplying the excitation signal to the at least three electrically conductive plates through a bridge circuit.

10 (original). The method of claim 1 wherein (a) comprises positioning at least two sets of electrically conductive plates near at least two respective laminations of a laminated core.

11 (original). The method of claim 10 wherein each set of electrically conductive plates comprises three electrically conductive plates linearly arranged with respect to at least one of the at least two respective laminations.

12 (original). The method of claim 11 wherein a first set of the at least two sets of electrically conductive plates comprises a first signal plate and a first pair of baseline plates, wherein a second set of the at least two sets of electrically conductive plates comprises a second signal plate and a second pair of baseline plates,

wherein (b) comprises supplying the excitation signal to the first pair of baseline plates, supplying the excitation signal to the second pair of baseline plates, and supplying the excitation signal to the first and second signal plates, and

wherein (c) comprises obtaining a fractioned signal of the resulting signals obtained from the first and second pairs of baseline plates, and subtracting a signal resulting from the first and second signal plates from the fractioned signal.

13 (original). The method of claim 11 wherein a first set of the at least two sets of electrically conductive plates comprises a first signal plate and a first pair of baseline plates, wherein a second set of the at least two sets of electrically conductive plates comprises a second signal plate and a second pair of baseline plates, and,

wherein (b) comprises supplying the excitation signal to a first plate of the first pair of baseline plates, supplying the excitation signal to a first plate of the second pair of baseline plates, and supplying the excitation signal to the first and second signal plates,

wherein a second plate of the first pair of baseline plates and a second plate of the second pair of baseline plates are electrically coupled, and

wherein (c) comprises multiplying a signal representative of the voltage across the first plates of the first and second pairs of baseline plates, and subtracting the multiplied signal from a signal representative of a voltage across the first and second signal plates.

14 (original). The method of claim 10 wherein each set of electrically conductive plates comprises one signal plate and one sense plate linearly arranged with respect to at least one of the at least two respective laminations.

15 (original). The method of claim 14 wherein the sense plates of two of the at least two sets are electrically coupled.

wherein (b) comprises supplying the excitation signal to the signal plates of the two of the at least two sets, and

wherein (c) comprises obtaining a current signal from the electrically coupled sense plates.

16 (original). The method of claim 14 wherein (b) comprises supplying the excitation signal to the signal plates of the two of the at least two sets, and wherein (c) comprises obtaining a voltage signal representative of the voltage across the sense plates.

17 (original). The method of claim 14 wherein (a) comprises positioning each set of electrically conductive plates near one tooth of the core.

18 (original). The method of claim 14 wherein (a) comprises positioning the sense plates near at least one separate tooth of the core than the signal plates.

19 (currently amended). A core contact detection method comprising:

(a) positioning at least two electrically conductive plates near at least two respective adjacent laminati ns along at least one tooth of a laminated core;

(b) supplying an excitation signal to the at least two electrically conductive plates;

(c) using a resulting signal to detect variations <u>over time</u> in capacitance between the at least two electrically conductive plates representative of a core contact; and

(d) moving the at least two electrically conductive plates axially relative to the at least one tooth while repeating (a) – (c) and using the plurality of resulting measured signals to detect core contacts.

20 (original). The method of claim 19 wherein (b) comprises supplying the excitation signal to the at least two electrically conductive plates through a bridge circuit.

21 (original). The method of claim 19 wherein (a) comprises positioning at least two sets of electrically conductive plates.

22 (original). The method of claim 21 wherein each set of electrically conductive plates comprises three electrically conductive plates linearly arranged with respect to at least one of the at least two respective laminations.

23 (original). The method of claim 21 wherein each set of electrically conductive plates comprises one signal plate and one sense plate linearly arranged with respect to at least one of the at least two respective laminations.

24 (riginal). The method of claim 23 wherein the sense plates of two of the at least two sets are electrically coupled,

wherein (b) comprises supplying the excitation signal to the signal plates of the two of the at least two sets, and

wherein (c) comprises obtaining a current signal from the electrically coupled sense plates.

25 (original). The method of claim 23 wherein (b) comprises supplying the excitation signal to the signal plates of the two of the at least two sets, and wherein (c) comprises obtaining a voltage signal representative of the voltage across the sense plates.

26 (original). The method of claim 23 wherein (a) comprises positioning each set of electrically conductive plates near one tooth of the core.

27 (original). The method of claim 23 wherein (a) comprises positioning the sense plates near at least one separate tooth of the core than the signal plates.

28 (currently amended). A core contact detection system comprising:

(a) at least two electrically conductive plates configured to be positioned near at least two respective laminations of a laminated core; and

(b) a processor configured for supplying an excitation signal to the at least two electrically conductive plates and using a resulting signal to detect variations <u>over time</u> in capacitance between the at least two electrically conductive plates representative of a core contact.

29 (original). The system of claim 1 further comprising a substrate, wherein the at least two electrically conductive plates are situated on the substrate.

30 (original). The system of claim 29 wherein the processor is integrated on the substrate.

31 (original). The system of claim 29 wherein the substrate is a plastic film or a printed circuit board.

32 (original). The system of claim 28 wherein the at least two electrically conductive plates comprise copper.

33 (original). The system of claim 28 further comprising a bridge circuit coupled between an excitation source and the at least two electrically conductive plates.

34 (original). The system of claim 28 wherein the at least two lectrically conductive plates comprise at least two sets of lectrically conductive plates.

35 (original). The system of claim 34 wherein each set of electrically conductive plates comprises three linearly arranged electrically conductive plates.

36 (original). The system of claim 35 wherein a first set of the at least two sets of electrically conductive plates comprises a first signal plate and a first pair of baseline plates, wherein a second set of the at least two sets of electrically conductive plates comprises a second signal plate and a second pair of baseline plates, and

wherein the processor is configured for supplying the excitation signal to the first pair of baseline plates, supplying the excitation signal to the second pair of baseline plates, supplying the excitation signal to the first and second signal plates, obtaining a fractioned signal of the resulting signals obtained from the first and second pairs of baseline plates, and subtracting a signal resulting from the first and second signal plates from the fractioned signal.

37 (original). The system of claim 35 wherein a first set of the at least two sets of electrically conductive plates comprises a first signal plate and a first pair of baseline plates, wherein a second set of the at least two sets of electrically conductive plates comprises a second signal plate and a second pair of baseline plates, wherein a second plate of the first pair of baseline plates and a second plate of the second pair of baseline plates are electrically coupled and,

wherein the processor is configured for supplying the excitation signal to a first plate of the first pair of baseline plates, supplying the excitation signal to a first plate of the second pair of baseline plates, and supplying the excitation signal to the first and second signal plates, multiplying a signal representative of the voltage across the first plates of the first and second pairs of baseline plates, and subtracting the multiplied signal from a signal representative of a voltage across the first and second signal plates.

38 (original). The system of claim 34 wherein each set of electrically conductive plates comprises one signal plate and one sense plate linearly arranged.

39 (original). The system of claim 38 wherein the baseline plates of two of the at least two sets are lectrically coupled, and wherein the processor is configured for supplying the excitation signal to the signal plates of the two of the at least two sets, and obtaining a current signal from the electrically coupled baseline plates.

40 (original). The system of claim 38 wherein the processor is configured for supplying the excitation signal to the signal plates of the two of the at least two sets, and obtaining a voltage signal representative of th voltage across the baseline plates.